

Maryland Department of Natural Resources
Forest Service
Annapolis, Maryland 21401



The Hemlock Woolly Adelgid

The hemlock forests of Maryland are part of a unique and often fragile habitat. Because of their shade tolerance and intolerance of fire, hemlocks are usually found growing in riparian areas or in steep cove forests in the northern and western tier counties of Maryland. It's estimated that more than 42,000 acres of such forests exist in Maryland.

The health of Maryland's hemlocks, and the associated ecosystems, is being threatened by the hemlock woolly adelgid (HWA). This small, exotic insect is native to Asia, and was first found in North America in British Columbia in the 1920's. It was reported in Richmond, Virginia in 1951, and spread northward into Maryland by the 1980's.

Heavy infestations of HWA may result in decline of tree health and eventual mortality. The severity of decline and mortality is often hastened by drought, or other pests, such as elongate hemlock scale and hemlock borer. Several stands in Maryland, which have been infested with HWA for more than 10 years, have extensive decline and some mortality.

Landscape hemlocks in the Baltimore – Washington area were infested in the late 1980's and natural stands in the area became infested by 1990. The infestation steadily moved westward through native stands of hemlock in Frederick and Washington Counties in the mid-1990's, Allegany County in 1999 and Garrett County in 2001.

While adelgid populations were moving through Maryland in the 1980's and 1990's, there were very few management tools available to stop its spread. Although treatment options for HWA are still being developed, there are now more tools available than there were just 10 years ago.

The Maryland Departments of Agriculture and Natural Resources have developed a Hemlock Woolly Adelgid Management and Suppression Plan. This plan sets forth management options for HWA on public lands across the State. Treatments began in the fall of 2004 and have continued through the present.

Visit this website, for more detail on the biology and identification of HWA:
http://mda.maryland.gov/plants-pests/Pages/hemlock_woolly_adelgid.aspx

The tables below indicate suppression efforts on Savage River State Forest.

Predator Release Form

First Predator 336 of 1828 Next Last

| | | | | | |
|---|------------------------|--|---|---------------------|--------------------------|
| Location Name: SAVAGE RIVER STATE FOREST | State: MD | Release ID: LNM011205 | Status: Pending | Type: Original | Original ReleaseID: |
| Coordinate Reading | | | | | |
| UTM Datum: | Northings: | Eastings: | Zone: | UTM Datum: | Zone: |
| 30N | 809839 | 179.139811 | 18 | 30N | 18 |
| Latitude: | Longitude: | UTM Easting: | UTM Zone: | Latitude: | Longitude: |
| 39.13.291 | 79.8.686 | 809839 | 18 | 39.13.291 | 79.8.686 |
| U-M 5 | U-M 5 | U-M 5 | U-M 5 | U-M 5 | U-M 5 |
| Biological Control Agents Released | | | | | |
| Species Released: | Life Stage Released: | Predator Density(Ind./Tree): | Source of Beetles: | Lab-Reared Beetles: | Field-Collected Beetles: |
| 1/4 | Adults | 21 | FIELD | Rearing Lot #: | Rocky Gap 1-F |
| Lab-Reared Beetles | | | | | |
| Insectary: | Date of Shipment: | Conditions Prior to Release: | Post-Chrysalis?: | Photoperiod: | Temperature: |
| | | | | (L/D) | |
| Field-Collected Beetles | | | | | |
| Wild Beetle Collection Site: | Wild Beetle Collector: | Date of Field Collection: | Rocky Gap 1-F B. Thompson/B. Orban 31/04/2012 | | |
| Site Ownership | | | | | |
| MD DNR | Site Contact: | Brad Owen 304-265-1546 boren@dnr.mdn.gov | | | |
| Releaser's Contact Information | | | | | |
| Name: | Phone Number: | Organization: | Email Address: | Date of Release: | Time of Release: |
| | | | | 11/10/2012 | 11:00 |
| Weather: | Temperature: | Precipitation: | Cloud Cover: | Humidity: | Wind: |
| | | none | low | | low |
| Stand Condition | | | | | |
| Herlock Density: | Overall Health: | Crown Class: | Slope: | Aspect: | Soil: |
| <5% | Good | Indeterminate | | SE | |
| Pre-Release Data for Release Trees | | | | | |
| Tree 1: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 6: |
| | | | | | |
| Tree 2: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 7: |
| | | | | | |
| Tree 3: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 8: |
| | | | | | |
| Tree 4: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 9: |
| | | | | | |
| Tree 5: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 10: |
| | | | | | |

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Last Modified: 11/04/2012 16:55

Predator Release Form

First Predator 344 of 1828 Next Last

| | | | | | |
|---|------------------------|------------------------------|--|---------------------|--------------------------|
| Location Name: Elk Lick | State: MD | Release ID: LNM012004 | Status: Pending | Type: Original | Original ReleaseID: |
| Coordinate Reading | | | | | |
| UTM Datum: | Northings: | Eastings: | Zone: | UTM Datum: | Zone: |
| 30N | 808118 | 179.083327 | 18 | 30N | 18 |
| Latitude: | Longitude: | UTM Easting: | UTM Zone: | Latitude: | Longitude: |
| 39.16.002 | 79.4.9996 | 808118 | 18 | 39.16.002 | 79.4.9996 |
| U-M 5 | U-M 5 | U-M 5 | U-M 5 | U-M 5 | U-M 5 |
| Biological Control Agents Released | | | | | |
| Species Released: | Life Stage Released: | Predator Density(Ind./Tree): | Source of Beetles: | Lab-Reared Beetles: | Field-Collected Beetles: |
| 1/4 | Adults | 723 | FIELD | Rearing Lot #: | Rocky Gap Maryland |
| Lab-Reared Beetles | | | | | |
| Insectary: | Date of Shipment: | Conditions Prior to Release: | Post-Chrysalis?: | Photoperiod: | Temperature: |
| | | | | (L/D) | |
| Field-Collected Beetles | | | | | |
| Wild Beetle Collection Site: | Wild Beetle Collector: | Date of Field Collection: | Rocky Gap Maryland Thompson 30/04/2012 | | |
| Site Ownership | | | | | |
| MD DNR | Site Contact: | Wide Dorsey | | | |
| Releaser's Contact Information | | | | | |
| Name: | Phone Number: | Organization: | Email Address: | Date of Release: | Time of Release: |
| Bill Thompson | 800-267-1554 | MD Dept. Agriculture | bthf@verizon.net | 10/11/2012 | 11:00 |
| Weather: | Temperature: | Precipitation: | Cloud Cover: | Humidity: | Wind: |
| | | light rain | low | | low |
| Stand Condition | | | | | |
| Herlock Density: | Overall Health: | Crown Class: | Slope: | Aspect: | Soil: |
| <5% | Fair | Indeterminate | | SE | |
| Pre-Release Data for Release Trees | | | | | |
| Tree 1: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 6: |
| | | | | | |
| Tree 2: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 7: |
| | | | | | |
| Tree 3: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 8: |
| | | | | | |
| Tree 4: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 9: |
| | | | | | |
| Tree 5: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 10: |
| | | | | | |

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Predator Release Form

First Predator 345 of 1828 Next Last

| | | | | | |
|---|------------------------|------------------------------|--|---------------------|--------------------------|
| Location Name: Elk Lick | State: MD | Release ID: LNM012005 | Status: Pending | Type: Original | Original ReleaseID: |
| Coordinate Reading | | | | | |
| UTM Datum: | Northings: | Eastings: | Zone: | UTM Datum: | Zone: |
| 30N | 808118 | 179.083327 | 18 | 30N | 18 |
| Latitude: | Longitude: | UTM Easting: | UTM Zone: | Latitude: | Longitude: |
| 39.16.002 | 79.4.9996 | 808118 | 18 | 39.16.002 | 79.4.9996 |
| U-M 5 | U-M 5 | U-M 5 | U-M 5 | U-M 5 | U-M 5 |
| Biological Control Agents Released | | | | | |
| Species Released: | Life Stage Released: | Predator Density(Ind./Tree): | Source of Beetles: | Lab-Reared Beetles: | Field-Collected Beetles: |
| 1/4 | Adults | 728 | FIELD | Rearing Lot #: | Rocky Gap Maryland |
| Lab-Reared Beetles | | | | | |
| Insectary: | Date of Shipment: | Conditions Prior to Release: | Post-Chrysalis?: | Photoperiod: | Temperature: |
| | | | | (L/D) | |
| Field-Collected Beetles | | | | | |
| Wild Beetle Collection Site: | Wild Beetle Collector: | Date of Field Collection: | Rocky Gap Maryland Thompson 31/04/2012 | | |
| Site Ownership | | | | | |
| MD DNR | Site Contact: | Wide Dorsey | | | |
| Releaser's Contact Information | | | | | |
| Name: | Phone Number: | Organization: | Email Address: | Date of Release: | Time of Release: |
| Bill Thompson | 800-267-1554 | MD Dept. Agriculture | bthf@verizon.net | 11/04/2012 | 11:00 |
| Weather: | Temperature: | Precipitation: | Cloud Cover: | Humidity: | Wind: |
| | | none | low | | low |
| Stand Condition | | | | | |
| Herlock Density: | Overall Health: | Crown Class: | Slope: | Aspect: | Soil: |
| <5% | Fair | Indeterminate | | SE | |
| Pre-Release Data for Release Trees | | | | | |
| Tree 1: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 6: |
| | | | | | |
| Tree 2: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 7: |
| | | | | | |
| Tree 3: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 8: |
| | | | | | |
| Tree 4: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 9: |
| | | | | | |
| Tree 5: | ID Tag: | Herlock Health: | Other Stressors? | HWIA Density: | Tree 10: |
| | | | | | |

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Predator Release Form
 First Previous 693 of 1828 Next Last

Location Name: Poplar Lock State: MD Release ID: LHM013001 Status: Pending Type: Original

| Coordinate Reading | | | Site Ownership | | |
|--------------------|-------------|------------------|----------------|----------------|----------------------|
| UTM Datum: | NAD83 | Zone: | 17 | Site Contact: | MD DNR Wade Dorsey |
| Easting: | 660209 | Northing: | 6285527 | Name: | Bill Thompson |
| Lat/Long: | | Longitude: | -79.13333 | Phone Number: | 301-267-1504 |
| UTM Datum: | 39 16 59998 | Photoperiod: | 12-12 (L-D) | Organization: | MD Dept. Agriculture |
| UTM Easting: | 39 16 59998 | Outplanting No.: | | Email Address: | wth@verizon.net |
| UTM North: | 39 16 59998 | | | | |
| UTM West: | 39 16 59998 | | | | |

Biological Control Agents Released

Species Released: L/N
 Total No. Predators Released: 1000
 Life Stage Released: Adults
 Predator Density(Ind./Tree): 50
 Source of Beetles: LAB

Lab-Reared Beetles

Rearing Lot #: 2013
 Date of Shipment: 11/21/2013
 Conditions Prior to Release: Starved
 Temperature: 10 C
 Photoperiod: 12-12 (L-D)
 Outplanting No.:

Field-Collected Beetles

Wild Beetle Collection Site:
 Wild Beetle Collector:
 Date of Field Collection:

Pre-Release Data for Release Trees

| Tree # | ID Tag | DBH: 6 inch | DBH: 2 inch | ID Tag | DBH: 6 inch | DBH: 2 inch |
|---------|--------|-------------|-------------|--------|-------------|-------------|
| Tree 1 | Pair | Good | Pair | Good | Good | Good |
| Tree 2 | Pair | Good | Pair | Good | Good | Good |
| Tree 3 | Pair | Good | Pair | Good | Good | Good |
| Tree 4 | Pair | Good | Pair | Good | Good | Good |
| Tree 5 | Pair | Good | Pair | Good | Good | Good |
| Tree 6 | Pair | Good | Pair | Good | Good | Good |
| Tree 7 | Pair | Good | Pair | Good | Good | Good |
| Tree 8 | Pair | Good | Pair | Good | Good | Good |
| Tree 9 | Pair | Good | Pair | Good | Good | Good |
| Tree 10 | Pair | Good | Pair | Good | Good | Good |
| Tree 11 | Pair | Good | Pair | Good | Good | Good |
| Tree 12 | Pair | Good | Pair | Good | Good | Good |
| Tree 13 | Pair | Good | Pair | Good | Good | Good |
| Tree 14 | Pair | Good | Pair | Good | Good | Good |
| Tree 15 | Pair | Good | Pair | Good | Good | Good |
| Tree 16 | Pair | Good | Pair | Good | Good | Good |
| Tree 17 | Pair | Good | Pair | Good | Good | Good |
| Tree 18 | Pair | Good | Pair | Good | Good | Good |
| Tree 19 | Pair | Good | Pair | Good | Good | Good |
| Tree 20 | Pair | Good | Pair | Good | Good | Good |

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Predator Release Form
 First Previous 311 of 1828 Next Last

Location Name: Poplar Lock State: MD Release ID: LHM013006 Status: Pending Type: Original

| Coordinate Reading | | | Site Ownership | | |
|--------------------|-------------|------------------|----------------|----------------|----------------------|
| UTM Datum: | NAD83 | Zone: | 17 | Site Contact: | MD DNR Wade Dorsey |
| Easting: | 660211 | Northing: | 6285477 | Name: | Bill Thompson |
| Lat/Long: | | Longitude: | -79.13331 | Phone Number: | 301-267-1504 |
| UTM Datum: | 39 16 59999 | Photoperiod: | 12-12 (L-D) | Organization: | MD Dept. Agriculture |
| UTM Easting: | 39 16 59999 | Outplanting No.: | | Email Address: | wth@verizon.net |
| UTM North: | 39 16 59999 | | | | |
| UTM West: | 39 16 59999 | | | | |

Biological Control Agents Released

Species Released: L/N
 Total No. Predators Released: 875
 Life Stage Released: Adults
 Predator Density(Ind./Tree): 50
 Source of Beetles: Field

Lab-Reared Beetles

Rearing Lot #: 2013
 Date of Shipment: 11/21/2013
 Conditions Prior to Release: Starved
 Temperature: 10 C
 Photoperiod: 12-12 (L-D)
 Outplanting No.:

Field-Collected Beetles

Wild Beetle Collection Site: Corner of Alene, Idaho
 Wild Beetle Collector: Thompson, Dylan
 Date of Field Collection: 11/20/2013

Pre-Release Data for Release Trees

| Tree # | ID Tag | DBH: 6 inch | DBH: 2 inch | ID Tag | DBH: 6 inch | DBH: 2 inch |
|---------|--------|-------------|-------------|--------|-------------|-------------|
| Tree 1 | Pair | Good | Pair | Good | Good | Good |
| Tree 2 | Pair | Good | Pair | Good | Good | Good |
| Tree 3 | Pair | Good | Pair | Good | Good | Good |
| Tree 4 | Pair | Good | Pair | Good | Good | Good |
| Tree 5 | Pair | Good | Pair | Good | Good | Good |
| Tree 6 | Pair | Good | Pair | Good | Good | Good |
| Tree 7 | Pair | Good | Pair | Good | Good | Good |
| Tree 8 | Pair | Good | Pair | Good | Good | Good |
| Tree 9 | Pair | Good | Pair | Good | Good | Good |
| Tree 10 | Pair | Good | Pair | Good | Good | Good |
| Tree 11 | Pair | Good | Pair | Good | Good | Good |
| Tree 12 | Pair | Good | Pair | Good | Good | Good |
| Tree 13 | Pair | Good | Pair | Good | Good | Good |
| Tree 14 | Pair | Good | Pair | Good | Good | Good |
| Tree 15 | Pair | Good | Pair | Good | Good | Good |
| Tree 16 | Pair | Good | Pair | Good | Good | Good |
| Tree 17 | Pair | Good | Pair | Good | Good | Good |
| Tree 18 | Pair | Good | Pair | Good | Good | Good |
| Tree 19 | Pair | Good | Pair | Good | Good | Good |
| Tree 20 | Pair | Good | Pair | Good | Good | Good |

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Predator Release Form
 First Previous 18 of 1828 Next Last

Location Name: SARAGEE RIVER STATE FOREST State: MD Release ID: LHM008003 Status: Approved Type: Original

| Coordinate Reading | | | Site Ownership | | |
|--------------------|------------|------------------|----------------|----------------|----------------------|
| UTM Datum: | NAD83 | Zone: | 17 | Site Contact: | MD DNR BIFF THOMPSON |
| Easting: | 660839 | Northing: | 6278928 | Name: | BRAID OWENS |
| Lat/Long: | | Longitude: | -79.13881 | Phone Number: | 204-285-1546 |
| UTM Datum: | 39 12 5961 | Photoperiod: | 12-12 (L-D) | Organization: | USFS |
| UTM Easting: | 39 12 5961 | Outplanting No.: | | Email Address: | bowen@fs.fed.us |
| UTM North: | 39 12 5961 | | | | |
| UTM West: | 39 12 5961 | | | | |

Biological Control Agents Released

Species Released: L/N
 Total No. Predators Released: 1000
 Life Stage Released: Adults
 Predator Density(Ind./Tree): 50
 Source of Beetles: LAB

Lab-Reared Beetles

Rearing Lot #: 2008
 Date of Shipment: 10/01/2008
 Conditions Prior to Release: Starved
 Temperature: 7
 Photoperiod: 12-12 (L-D)
 Outplanting No.:

Field-Collected Beetles

Wild Beetle Collection Site:
 Wild Beetle Collector:
 Date of Field Collection:

Pre-Release Data for Release Trees

| Tree # | ID Tag | DBH: 13 inch | DBH: 6 inch | ID Tag | DBH: 13 inch | DBH: 6 inch |
|---------|--------|--------------|-------------|--------|--------------|-------------|
| Tree 1 | Pair | Good | Pair | Good | Good | Good |
| Tree 2 | Pair | Good | Pair | Good | Good | Good |
| Tree 3 | Pair | Good | Pair | Good | Good | Good |
| Tree 4 | Pair | Good | Pair | Good | Good | Good |
| Tree 5 | Pair | Good | Pair | Good | Good | Good |
| Tree 6 | Pair | Good | Pair | Good | Good | Good |
| Tree 7 | Pair | Good | Pair | Good | Good | Good |
| Tree 8 | Pair | Good | Pair | Good | Good | Good |
| Tree 9 | Pair | Good | Pair | Good | Good | Good |
| Tree 10 | Pair | Good | Pair | Good | Good | Good |
| Tree 11 | Pair | Good | Pair | Good | Good | Good |
| Tree 12 | Pair | Good | Pair | Good | Good | Good |
| Tree 13 | Pair | Good | Pair | Good | Good | Good |
| Tree 14 | Pair | Good | Pair | Good | Good | Good |
| Tree 15 | Pair | Good | Pair | Good | Good | Good |
| Tree 16 | Pair | Good | Pair | Good | Good | Good |
| Tree 17 | Pair | Good | Pair | Good | Good | Good |
| Tree 18 | Pair | Good | Pair | Good | Good | Good |
| Tree 19 | Pair | Good | Pair | Good | Good | Good |
| Tree 20 | Pair | Good | Pair | Good | Good | Good |

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Last Modified: 11/05/2008 12:15

Predator Release Form

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First Predator 352 of 1828 Next Last

| | | | | | | | | |
|------------------------------------|--------------------------|-----------------|-----------------------|-----------------|-----------------|--------------------|--------------------------------|----------------------------|
| Location Name: Poplar/Lick Ln | | State: MD | Release ID: LNW013008 | Status: Pending | Type: Augment | Original Released: | Site Ownership: MD DNR | Site Contact: Wade Dorsey |
| Coordinate Reading | | | | | | | Releaser's Contact Information | |
| UTM Datum: | 940183 | Zone: | 17 | Easting: | 860225 | Northing: | 4188877 | Name: Bill Thompson |
| Lat/Long: | | Latitude: | 39.616666 | Longitude: | 79.133333 | Organization: | 800-267-5264 | Phone Number: 800-267-5264 |
| ID M 5: | 39.58.59.99 | Dispersing?: | | | 29.7.59.98 | Email Address: | MD Dept. Agriculture | MD Dept. Agriculture |
| | | | | | 29.7.59.98 | | billthompson.net | billthompson.net |
| Biological Control Agents Released | | | | | | | Date of Release: 11/23/2013 | |
| Species Released: | N/A | | | | | | Time of Release: | 12:00 |
| Total No. Predators Released: | 157 | | | | | | Weather: | DS F |
| Life Stage Released: | Adults | | | | | | Temperature: | 35 F |
| Predator Density(Ind./Tree): | FIELD | | | | | | Precipitation: | none |
| Source of Beetles: | FIELD | | | | | | Cloud Cover: | 100 |
| Lab-Reared Beetles | | | | | | | Stand Condition | |
| Insectary: | Rearing Lot #: _____ | | | | | | Herlock Density: | CS26 |
| Date of Shipment: | _____ | | | | | | Overall Health: | Fair |
| Conditions Prior to Release: | _____ | | | | | | Crown Class: | codominant |
| Temperature: | Photoperiod: (L:D) _____ | | | | | | Slope: | SE |
| Post Dispersal?: | Dispersing? _____ | | | | | | Aspect: | SE |
| Field-Collected Beetles | | | | | | | Ink Densities: | |
| Wild Beetle Collection Site: | Corner of Alamo, Idaho | | | | | | Notes: | Medium |
| Wild Beetle Collector: | Thompson Orlean | | | | | | | |
| Date of Field Collection: | 11/23/2013 | | | | | | | |
| Pre-Release Data for Release Trees | | | | | | | | |
| Tree 1 | | | Tree 2 | | | Tree 3 | | |
| ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: |
| Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: |
| Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? |
| WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: |
| Record input by billth | | | | | | | | |

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Predator Release Form

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First Predator 354 of 1828 Next Last

| | | | | | | | | |
|------------------------------------|--------------------------|-----------------|-----------------------|-----------------|-----------------|--------------------|--------------------------------|----------------------------|
| Location Name: Poplar/Lick Ln | | State: MD | Release ID: LNW013009 | Status: Pending | Type: Augment | Original Released: | Site Ownership: MD DNR | Site Contact: Wade Dorsey |
| Coordinate Reading | | | | | | | Releaser's Contact Information | |
| UTM Datum: | 940183 | Zone: | 17 | Easting: | 860225 | Northing: | 4188877 | Name: Bill Thompson |
| Lat/Long: | | Latitude: | 39.616666 | Longitude: | 79.133333 | Organization: | 800-267-5264 | Phone Number: 800-267-5264 |
| ID M 5: | 39.58.59.99 | Dispersing?: | | | 29.7.59.98 | Email Address: | MD Dept. Agriculture | MD Dept. Agriculture |
| | | | | | 29.7.59.98 | | billthompson.net | billthompson.net |
| Biological Control Agents Released | | | | | | | Date of Release: 11/23/2013 | |
| Species Released: | N/A | | | | | | Time of Release: | 12:00 |
| Total No. Predators Released: | 151 | | | | | | Weather: | DS F |
| Life Stage Released: | Adults | | | | | | Temperature: | Wind: medium |
| Predator Density(Ind./Tree): | FIELD | | | | | | Precipitation: | 100 |
| Source of Beetles: | FIELD | | | | | | Cloud Cover: | 100 |
| Lab-Reared Beetles | | | | | | | Stand Condition | |
| Insectary: | Rearing Lot #: _____ | | | | | | Herlock Density: | CS26 |
| Date of Shipment: | _____ | | | | | | Overall Health: | Fair |
| Conditions Prior to Release: | _____ | | | | | | Crown Class: | codominant |
| Temperature: | Photoperiod: (L:D) _____ | | | | | | Slope: | SE |
| Post Dispersal?: | Dispersing? _____ | | | | | | Aspect: | SE |
| Field-Collected Beetles | | | | | | | Ink Densities: | |
| Wild Beetle Collection Site: | Corner of Alamo, Idaho | | | | | | Notes: | Medium |
| Wild Beetle Collector: | Thompson Orlean | | | | | | | |
| Date of Field Collection: | 11/23/2013 | | | | | | | |
| Pre-Release Data for Release Trees | | | | | | | | |
| Tree 1 | | | Tree 2 | | | Tree 3 | | |
| ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: |
| Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: |
| Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? |
| WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: |
| Record input by billth | | | | | | | | |

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Predator Release Form

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First Predator 362 of 1828 Next Last

| | | | | | | | | |
|------------------------------------|--------------------------|-----------------|-----------------------|-----------------|-----------------|--------------------|--------------------------------|----------------------------|
| Location Name: Poplar/Lick Ln | | State: MD | Release ID: LNW013007 | Status: Pending | Type: Augment | Original Released: | Site Ownership: MD DNR | Site Contact: Wade Dorsey |
| Coordinate Reading | | | | | | | Releaser's Contact Information | |
| UTM Datum: | 940183 | Zone: | 17 | Easting: | 860225 | Northing: | 4188877 | Name: Bill Thompson |
| Lat/Long: | | Latitude: | 39.616666 | Longitude: | 79.133333 | Organization: | 800-267-5264 | Phone Number: 800-267-5264 |
| ID M 5: | 39.58.59.99 | Dispersing?: | | | 29.7.59.98 | Email Address: | MD Dept. Agriculture | MD Dept. Agriculture |
| | | | | | 29.7.59.98 | | billthompson.net | billthompson.net |
| Biological Control Agents Released | | | | | | | Date of Release: 04/18/2013 | |
| Species Released: | N/A | | | | | | Time of Release: | 12:00 |
| Total No. Predators Released: | 158 | | | | | | Weather: | DS F |
| Life Stage Released: | Adults | | | | | | Temperature: | Wind: none |
| Predator Density(Ind./Tree): | FIELD | | | | | | Precipitation: | none |
| Source of Beetles: | FIELD | | | | | | Cloud Cover: | 100 |
| Lab-Reared Beetles | | | | | | | Stand Condition | |
| Insectary: | Rearing Lot #: _____ | | | | | | Herlock Density: | CS26 |
| Date of Shipment: | _____ | | | | | | Overall Health: | Fair |
| Conditions Prior to Release: | _____ | | | | | | Crown Class: | codominant |
| Temperature: | Photoperiod: (L:D) _____ | | | | | | Slope: | SE |
| Post Dispersal?: | Dispersing? _____ | | | | | | Aspect: | SE |
| Field-Collected Beetles | | | | | | | Ink Densities: | |
| Wild Beetle Collection Site: | Corner of Alamo, Idaho | | | | | | Notes: | Medium |
| Wild Beetle Collector: | Thompson Orlean | | | | | | | |
| Date of Field Collection: | 04/18/2013 | | | | | | | |
| Pre-Release Data for Release Trees | | | | | | | | |
| Tree 1 | | | Tree 2 | | | Tree 3 | | |
| ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: | ID Tag: |
| Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: | Herlock Health: |
| Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? | Other Stressor? |
| WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: | WVA Density: |
| Record input by billth | | | | | | | | |

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